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MEMORANDUM

TO: Chand Sultana
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FROM: Karen W. DiBiasio, Ph.D. *Karen W. DiBiasio*
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DATE: January 22, 2016

SUBJECT: FORMER PECHINEY CAST PLATE, INC., Vernon, CA
Proposed Engineering Controls – North Parcel

Activity Code: 11018

Project Code: DTSC301396-00

DOCUMENTS REVIEWED

As requested on January 11, 2016, HERO reviewed the November 19, 2015 "Proposed Engineering Controls for the Redevelopment of the Northern Portion of the Former Pechiney Cast Plate Inc. Property Located at 3200 Fruitland Avenue Vernon, California" (EC Report) prepared by Hazardous Management Consultants (HMC) in San Clemente, CA.

BACKGROUND

The Human and Ecological Risk Office (HERO) was requested to provide continuing toxicology and risk assessment support for the Former Pechiney Cast Plate, Inc. Facility (aka, Alcoa) in Vernon, California (Site). HERO reviewed the proposed engineer controls (ECs) for the northern parcel which consists of Phase I area and the majority of Phase II area. Previously, HERO reviewed the Removal Action Completion Reports from each of Phases I and II.

According to the May 7, 2012 Feasibility Study, the Site is approximately 26.9 acres and the Pechiney facility consisted of one large single building of about 600,000 square feet (sq ft). The Site was once part of a 56-acre, aluminum manufacturing facility owned and operated by the Aluminum Company of America (Alcoa) whose operations began in 1937. Alcoa used fuels and Stoddard solvent that were stored in underground storage tanks (USTs). Alcoa also used lubricating and hydraulic oils and generated hazardous waste that was stored at various locations throughout the Site. In 1999, Pechiney purchased the western portion of the former Alcoa property. At that time, Alcoa investigated subsurface conditions and conducted limited remediation in both the eastern and western portions of the former Alcoa facility as part of their efforts to seek the closure of its City of Vernon H&EC hazardous materials permit. In November 2006, Pechiney closed the facility and completed above ground demolition work that consisted of demolition and off-site transport of debris from the above-ground features, including the former manufacturing facilities. The below-grade demolition consisted of removal of building slabs, pavements, below-grade man-made structures (including footings, foundation, pits, and sumps), and other structures located adjacent to the former building areas. Site soil, soil vapor and groundwater exceeded risk-based screening levels. Site risk drivers were previously identified as polychlorinated biphenyls (PCBs), total petroleum hydrocarbons (TPHs), VOCs and metals. The site has undergone soil remediation in the form of removal and off-site disposal for soil above remedial goals above 15 ft below native grade; however soil with COCs above remedial goals at 15 ft or more below native grade remain under concrete covers or underground warning barriers. Soil vapor extraction is on-going in Phase I area and Phases III/IV areas.

SCOPE OF REVIEW

HERO's review was limited to aspects relevant to protection of human health and risk assessment.

COMMENTS

1. **Proposed ECs Insufficient:** As noted in the below comments, the EC Report is not sufficient to ensure protection of human health. HERO recommends revising the EC Report to address HERO's following comments which include additional measures to ensure protection of human health.
2. **Human Health Concerns of Proposed ECs:** HERO is concerned that the absence of engineering controls beyond operating the existing soil vapor extraction system (SVE) may not protect human health from potential indoor air risks. The EC Report also proposed indoor air (IA) monitoring on a quarterly basis the first year following construction, and possibly for up to 5 years at which point the need for additional IA monitoring will be evaluated in a 5 year review. HERO has the following concerns and recommendations.
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- HERO is concerned that the criteria proposed for SVE shut down, reaching asymptotic conditions, may not achieve soil vapor concentrations that are health protective for IA vapor intrusion.
- HERO is concerned that high soil concentrations of PCBs (up to 2000 mg/kg) and TPHs (>1000 mg/kg in gasoline and diesel range) remaining under concrete caps or underground warning barriers in the Phase II area that is not within the SVE system zone of influence may have potential IA vapor intrusion risks that are not health protective.

HERO recommends IA vapor intrusion mitigation under the entire building on the northern parcel, such as passive subslab venting that can be converted to active venting if needed and/or a vapor barrier under the entire footprint of the building; IA monitoring is needed to verify the effectiveness of any IA vapor intrusion mitigation solution. If an IA vapor intrusion barrier is not under the entire footprint of the building, then potential IA vapor intrusion may occur from lateral migration beyond the extents of the barrier. Installing subslab IA vapor intrusion engineering controls as mitigation measures during the construction phase of new buildings is much more cost effective than having to install a mitigation system after construction is completed when IA monitoring demonstrates IA vapor intrusion exceeds health protective concentrations.

3. **Inadequacy of Proposed IA Monitoring:** The proposed use of IA monitoring to direct actions that may be needed to protect human health is not adequate, particularly if IA vapor intrusion mitigation measures are not implemented under the entire building. HERO recommends the following:

- First, the actions and IA vapor concentration targets that will trigger action need to be specified either in the EC Report or an Operations & Maintenance (O&M) Plan for HERO's concurrence to ensure protection of human health.
- Second, a work plan is needed for the IA monitoring.
- Third, IA monitoring needs to continue beyond cessation of the SVE system to ensure rebound and re-equilibration of soil vapor does not result in IA vapor intrusion at levels of human health concern.
- Lastly, the IA monitoring results need to be reported to DTSC for HERO's concurrence to ensure protection of human health.

CONCLUSIONS

HERO reviewed the November 19, 2015 Proposed Engineering Controls for the Northern Parcel (EC Report). The EC Report is not sufficient to ensure protection of human health; therefore, HERO recommends revising the EC Report to address HERO's comments herein which include additional measures to ensure protection of human health.

Please contact me at (916) 255-6633 or karen.dibiasio@dtsc.ca.gov if you have any questions.

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